

MAMMALS RECORDED FOR THE MALLEE, VICTORIA

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Abstract

The major vegetational formations of the Mallee are briefly discussed and sources of data about Mallee mammals are indicated. A list is given of 41 mammals recorded from in or near the Victorian Mallee, and records of each are summarized. These mammals are discussed under four categories: 15 were inland or W. animals which approached or penetrated the Victorian Mallee only in the Murray-Darling area and none of which has been recorded there for about a century; 6 species (4 of which are still extant) belonged to less arid inland habitats, and occurred about the Mallee and in adjoining woodland areas of N. and W. Victoria; 3 are typically Mallee species still extant in the region; and 17, which are widespread in Victoria today, extended more or less into the Mallee. The Victorian Mallee is thus shown to have been the meeting place of two distinct faunas—the one of arid inland Australia and the other of C. and S. Victoria.

Vegetation

Most of the Victorian Mallee originally carried a mallee-eucalypt vegetation but, with the spread of agriculture, much of this formation has been eliminated. Most of the remnant lies between the South Australian border and a N.-S. line from Mildura to Horsham. In this W. sector there are three major units of natural habitat, the Little Desert, the Big Desert, and the Sunset Country.

The Little Desert is an E.-W. zone of sandy heathland practically devoid of mallee-eucalypts but carrying a little brown stringybark (*Eucalyptus baxteri*). Adjoining this desert on the N. side is a tract of typical mallee-eucalypt vegetation, which in turn gives way to the woodland formation of the Nhill-Kaniva district. This woodland is not properly part of the Mallee but is similar to extensive tracts lying S. and SE. of that region. It isolates the Little Desert habitat from the rest of the Mallee.

The Big Desert is a comparatively large tract of sand plains and dunes carrying mainly a mixture of heath vegetation and mallee-eucalypt. Intruding into it, the Pine Plains unit is an area of grassland and savannah. The Big Desert is bounded to the north by an E.-W. zone, about the Ouyen Highway, of somewhat fertile sandy loam, the natural vegetation of which is comparatively dense mallee-eucalypt formation.

The Sunset Country is sand, generally with sparse mallee-eucalypt vegetation but with a number of open plains. A few areas, notably the Raak Plain, are saline and carry saltbush.

From about Red Cliffs westward there were originally open formations such as grassland, savannah, and pine-belar woodland. Saltbush plains reappear N. of the Sturt Highway, and finally there are the gum-box woodlands of the Murray R. flood-plains.

Main roads, general areas, and localities cited in this paper, as well as original limits of mallee vegetation, are illustrated in Fig. 1.

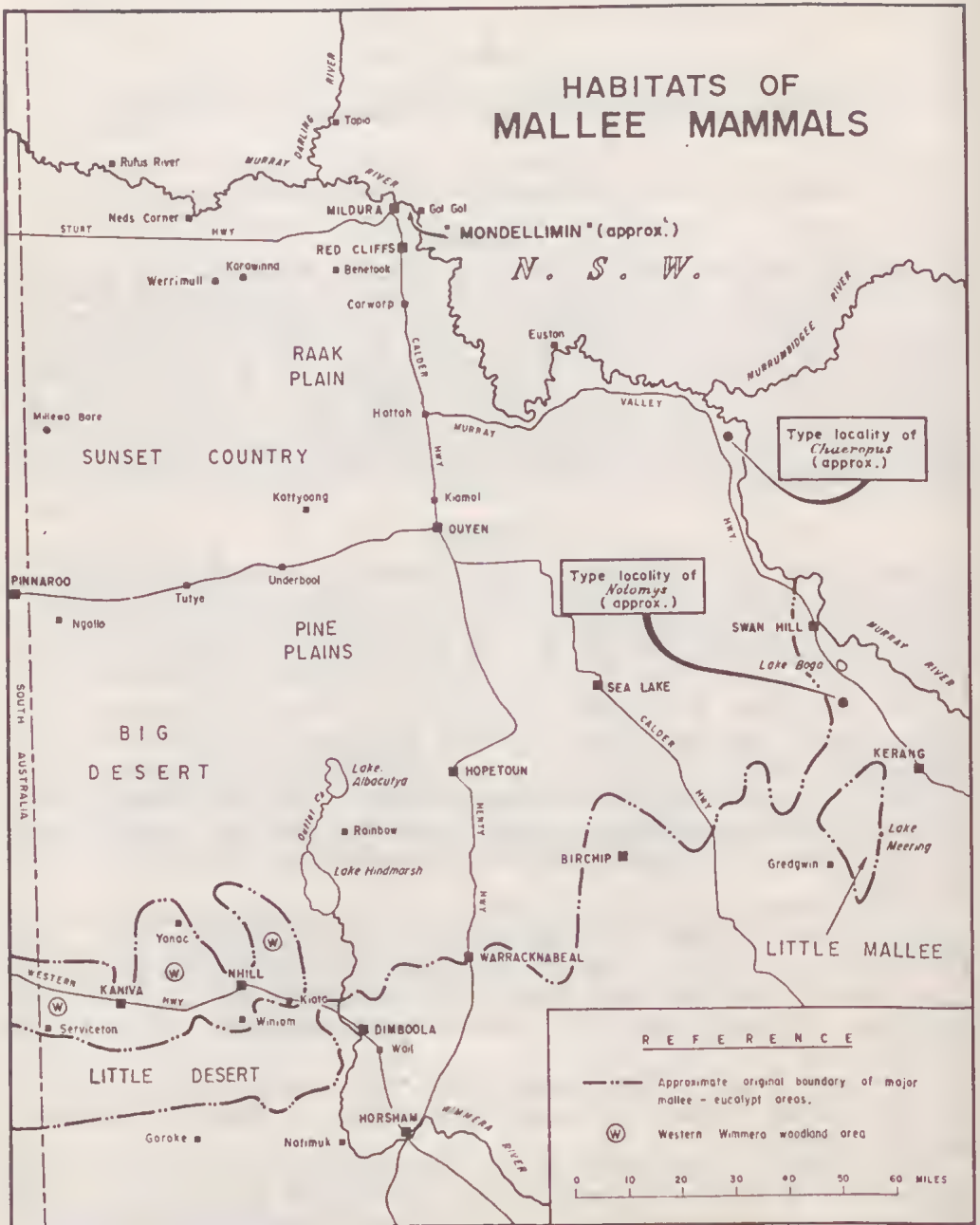


FIG. 1

Sources of Data

Specimens in the National Museum of Victoria provide the main body of information, and some additional material is cited from the mammal collection of the Fisheries and Wildlife Department of Victoria. The abbreviations NMV and FWD respectively are used for these institutions.

The museum specimens of bats (Molossidae, Vespertilionidae) cited in the present paper have been identified by R. M. Ryan, lately curator of mammals at the NMV and a specialist in the study of Microchiroptera. The taxonomy used hereunder for bats is that currently adopted by the CSIRO Division of Wildlife Research; otherwise, with the exceptions indicated in the text, names of mammals are according to Iredale & Troughton (1934).

An analysis has been made of records of the Blandowski expedition of 1857. This provides some locality data less vague than the citation 'Junction of Murray and Darling' that has been applied universally to Blandowski material located in the NMV. Gerard Krefft was responsible for almost all the collecting of mammals for this expedition, and the observations attributed to him in the present paper apply to his experiences during the expedition. 'Mondellimin', the Blandowski base camp, was situated on the S. bank of the Murray approximately where Mildura now is. In the present paper, citations of that locality almost invariably apply to series of specimens which may have originated partly or wholly from either New South Wales or Victoria. These details are discussed fully in a separate paper (Wakefield 1966) which should be read in conjunction with the present one.

In the present paper, some observations are included which are not supported by preserved specimens but which are considered to be valid. Those of the present author are cited as 'N.A.W. obs.'; others are acknowledged to C. R. Crouch of Kaniva and H. R. Hobson of Rosebery.

Mammal Records

ORNITHORHYNCHIDAE

Ornithorhynchus anatinus

FWD: Murray R. at Rufus R. 1963; Swan Hill 1948; Reedy Lake, Kerang 1960. C. R. Crouch (in litt. 1961) stated that the species is in the Wimmera R. and that a skull was found on one of its sand-banks in August 1959.

TACHYGLOSSIDAE

Tachyglossus aculeatus

Diggings noted in 1964 and 1965 indicate that the species is widespread in heath formations of Little Desert, Big Desert, and the Sunset Country (N.A.W. obs.).

DASYURIDAE

Antechinus flavipes

NMV: Mondellimin 1857.

Krefft found the species plentiful in gum-box forests along the Murray.

Phascogale calura

NMV: Mondellimin 1857.

Sminthopsis crassicaudata

NMV: Mildura 1953; Karawinna 1929; Werrimull 1929; Carwarp 1964; Swan

Hill 1906; Rainbow 1911; Birchip 1904; Warracknabeal 1904; N. edge of Little Desert near Kiata 1945; Goroke 1916.

Sminthopsis murina

NMV: Mondellimin 1857.

On 17 April 1965, a specimen was caught in the Big Desert, 13 miles N. of Yanac. It was examined and positively identified before it escaped (N.A.W. obs.).

Antechinomys laniger

NMV: Mondellimin 1857.

Dasyurinus geoffroii

NMV: Mondellimin 1857.

Myrmecobius fasciatus (= *rufus*)

Kreffit reported that the species was not to be found near the Murray but that it occurred in the Tapio area near the lower Darling R.

PERAMELIDAE

Isoodon obesulus forma

NMV: Mondellimin 1857.

Kreffit found the species plentiful in the lower Murray R. area.

The N. Mallee animals corresponded in size to the *I. obesulus* of Central Australia and to the specimens recorded from the lower Murray, South Australia (Wakefield 1964). They are treated in the present paper as an entity distinct from the much larger form abundant in S. Victoria.

Perameles bougainville (= *fasciata*)

NMV: Mondellimin 1857.

Kreffit found the species common about the Murray R. The only other Victorian record is of skeletal remains of unknown antiquity from an owl pellet deposit in the Grampians (Wakefield 1963a).

Macrotis lagotis

NMV: Murray-Darling, N.S.W. 1857.

Kreffit obtained the Blandowski expedition specimens in New South Wales, and his comment that it had 'long ago retreated to the north of the Murray' is evidently the sole basis of the statement by Brazenor (1950) that it was 'originally recorded from the north-west of the State'.

Chaeropus ecaudatus

NMV: Murray-Darling, N.S.W. 1857.

Kreffit obtained all the Blandowski specimens N. of the Murray, and the type specimen provides the only valid record of the species in Victoria.

Mitchell (1839) reported the capture of the original animal in June 1836, a few miles SE. of the Murrumbidgee junction. The habitat was 'grassy plains bounded by sandhills on which grew pines (callitris) and open forests of goborro (or box trees) . . . nearer the river'.

PHALANGERIDAE

Acrobates pygmaeus

C. R. Crouch (in litt. 1965) reported that a specimen was found near Kaniva in 1956, and a second near L. Boorookpi, W. of Goroke, in 1964. The latter record is supported by clear colour photographs.

Cercartetus concinnus

NMV: Mildura 1955; Ouyen 1911; Underbool 1910; Serviceton 1937; Little Desert, 6 miles SE. of Kiata 1961; Wail 1961.

FWD: Nureoung, 10 miles NE. of Natimuk 1962 (Type of *C. c. minor*).

Wakfield (1963) described the habitat as mallee and mallee-heath formations where there is sclerophyllous shrubbery in conjunction with eucalypts.

Petaurus breviceps

C. R. Crouch (in litt. 1965) reported that specimens were found 7 miles SE. of Kaniva in 1956 and near South Lillimur, 7 miles SW. of Kaniva, in 1965.

Pseudocheirus peregrinus (= *laniginosus*)

Kreffft found the species very rare in the Murray-Darling area in 1857, and there is no other Mallee record of it.

Trichosurus vulpecula

NMV: Carwarp 1956; Gredgwin 1962; Yanac 1954; Boyeo, 10 miles NW. of Nhill 1961; S. of Kaniva 1965.

Kreffft found the species plentiful in the gum-box forests along the Murray and also in tall mallee formation many miles from water.

MACROPODIDAE

Bettongia lesueur fenicillata

NMV: Mondellimin 1857.

Kreffft found the species along the Murray westward from about Euston, and he noted its partiality to *Polygonum* thickets.

Bettongia lesueur

NMV: Murray-Darling, N.S.W. 1857.

Kreffft obtained all the Blandowski expedition specimens in New South Wales.

[Aepyprymnus rufescens]

NMV: Gunbower and Eehuea 1856-7.

Kreffft did not encounter the species W. of Reedy Lake (Kerang), and it cannot be considered as a Mallee species.]

Lagorchestes leporides

NMV: Murray-Darling 1857.

Kreffft's experience with the species was mainly or wholly between the Murray and Darling, particularly in saltbush country.

Onychogalea fraenata

NMV: Mondellimin 1857.

Krefft found the species plentiful from about Gunbower to the Murray-Darling area, and he noted its preference for scrub-covered sandhills.

In 1959 a sub-fossil skeleton of unknown antiquity was found near L. Hindmarsh; it is lodged in the Mines Department Geological Museum, Melbourne.

Onychogalea lunata

NMV: W. of Darling R., N.S.W. 1857.

Wallabia rufogrisea

FWD: 8 miles SW. of Kaniva 1966.

Several sightings in 1965 demonstrate that the species occurs also on the N. fringe of the Little Desert both SW. and SE. of Kaniva (N.A.W. obs.).

Macropus rufus (= *Megaleia*)

NMV: Benetook 1949.

FWD: Ned's Corner 1960.

Macropus major

NMV: Swan Hill 1911; Winiam 1921.

FWD: Mildura 1960; N. of Hattah 1962.

On the evidence of the sighting of many animals and innumerable tracks in areas investigated during 1964 and 1965, this species is recorded as widespread and abundant in the Mallee (N.A.W. obs.).

Over 50 years ago, LeSouef (1887), French (1889), and Mattingley (1909) found it plentiful near L. Albaeutya, towards Red Bluff station via Bordertown, and in the Pine Plains area, respectively.

These observations apply mainly or wholly to the Black-faced Kangaroo, *M. m. melanops*, but the relationship of this Mallee form to the common Grey Kangaroo is not considered in this paper.

MURIDAE

Hydromys chrysogaster

NMV: Mildura 1953, 1962; L. Boga 1857.

H. R. Hobson (in litt. 1962) reported observation of two specimens in Outlet Ck near L. Albaeutya in 1958.

[*Thetomys gouldii*

The single NMV specimen registered as 'Junction of Murray and Darling' was evidently brought back by Blandowski from his Darling R. excursion, and the species cannot be recorded as Victorian or even from the lower Darling area.]

Leggadina hermannsburgensis

NMV: Murray-Darling 1857.

Krefft indicated that the species had a general distribution in the scrubs of the lower Murray R. district. It is reasonably certain that some of the many specimens he collected were obtained in the N. part of the Victorian Mallee.

Gyomys apodemoides

NMV: Little Desert, S. of Kiata 1940, 1957.

Field work in 1964 and 1965 has established that the species is widespread and

abundant in undulating heath and mallee-heath formations of both the Little Desert and Big Desert (N.A.W. obs.).

Gyomys desertor (= *Mus subrufus* Krefft)

NMV: Murray-Darling 1857.

Krefft referred to the abundance of this species between Gol Gol and the Darling R., and he neither affirmed nor denied its occurrence S. of the Murray. It is highly probable that some of the many specimens he collected were obtained in Victoria.

Leporillus apicalis

NMV: Mondellimin 1857.

Krefft found the species on both sides of the Murray R. from about Euston westward.

Leporillus conditor

NMV: Tapio, N.S.W. 1857.

The acceptance that this species once occurred in the Victorian Mallee is based on Krefft's report of its empty stick houses to the south of the Murray R.

Notomys mitchellii

NMV: Mondellimin 1857; Hattah 1965; NE. end of L. Albacutya 1956; near Rainbow 1962; 8 miles E. of Yanac 1955.

FWD: 8 miles NE. of Kiamal 1965; S. of Tutye 1965; Ngallo 1965.

The type specimen was obtained in June 1836 several miles SE. of L. Boga, Victoria (*vide* Mitchell 1839).

Krefft encountered the species in abundance from the Murrumbidgee westward to about the Darling.

A recent survey has shown that in the Hattah area and about the Big Desert its habitat is scrub-covered sandhills associated with mallee-eucalypt formation (N.A.W. obs.).

On the evidence of an observation reported to him, Brazenor (1936) recorded *Notomys* from near Goroke, but this is suspect as there is no valid record of the species from the Little Desert area.

CANIDAE

Canis familiaris dingo

NMV: Mondellimin 1857.

Krefft found the dingo plentiful about the Murray R., despite poisoning by settlers. French, LeSouef, and Mattingley (l.c.) indicated that it was still abundant in mallee areas about the turn of the century.

Records of the Vermin and Noxious Weeds Branch of the Department of Lands and Survey, Victoria, show that for 1963 and 1964 an aggregate of 18 wild dogs or dingoes were destroyed in the Shire of Lowan, W. Wimmera.

Remains of two kangaroos, with large bones broken and chewed dog fashion, in the vicinity of Salt Lake, 13 miles S. of Kiata, in December 1964, established that wild dogs or dingoes had recently been in that section of the Little Desert; and several sets of fresh dingo tracks were found near Millewa Bore, Sunset Country, in September 1965 (N.A.W. obs.).

MOLOSSIDAE

Tadarida australis

NMV: Warracknabeal 1927.

C. R. Crouch (in litt. 1961) reported examining examples of this species in September 1959 from two localities on the S. fringe of the Big Desert: one from Murrawong, N. of Kaniva, and several from approximately 6 miles N. of Kiata.

Tadarida planiceps

NMV: Red Cliffs 1954; 18 miles N. of Underbool 1963; L. Meering 1962, 1963; Kiata 1963; Kaniva 1961.

VESPERTILIONIDAE

Chalinolobus gouldii

NMV: Mopoke Tank, Sunset Country 1961; Perry Tank, Sunset Country 1963; L. Meering 1962, 1963; Rainbow 1962; S. of Kaniva 1961.

Eptesicus pumilus

NMV: Mildura 1961; Hattah 1951; Mopoke Tank 1961; Kattyong 1962; L. Meering 1962, 1963; W. Wimmera 1961.

Nyctophilus geoffroyi

NMV: Raak 1918; Mopoke Tank 1961; Ouyen 1910; Little Desert, S. of Kiata 1961.

Nyctophilus timoriensis

NMV: Mopoke Tank 1961; Ouyen 1910.

Nycticeius balstoni

NMV: Red Cliffs 1922; Pink Lakes, NW. of Underbool 1963; S. of Kaniva 1960.

Discussion

Many of the mammals encountered by Krefft in 1857 were inland or W. species of arid habitats which, as far as is known, approached or penetrated the Victorian Mallee only in the Murray-Darling area. The following 15 species are in this category.

Myrmecobius fasciatus, *Macrotis lagotis*, *Bettongia lesueur*, and *Onychogalea lunata* were found N. of the Murray R., and there is no evidence that any of them occurred in Victoria in modern time. Nevertheless, any of them may have been present, immediately prior to European settlement, in the N. fringe of the Victorian Mallee.

Phascogale calura, *Antechinomys laniger*, *Dasyurus geoffroyi*, *Isodon obesulus* forma, *Perameles bougainville*, *Chaeropus ecaudatus*, *Bettongia penicillata*, *Gyomys desertor*, *Legaddina hermannsburgensis*, *Leporillus conditor*, and *Leporillus apicalis* are accepted as having occurred on the Victorian side of the Murray. Nothing further is known of the distribution of any of these, as modern animals, in this State, though it is likely that at least some were widespread about the Mallee.

None of the 15 mammals listed above nor the first two of the next category below has been recorded in or near Victoria since the 1860s. Marlow (1958) records a similar situation with the marsupials of W. New South Wales, where 'the

smaller plain-dwelling members . . . without exception have been reduced to rarity or extinction'.

A second category comprises species of less arid habitat, which were formerly widespread in inland areas of New South Wales and which occurred in woodlands of N. or W. Victoria as well as about the Mallee. These include *Lagorchestes leporides*, *Onychogalea fraenata*, and *Macropus rufus*, all of which are represented in the NMV collections by specimens from the Echuca-Gunbower district, well to the east of the limits of the Mallee.

Three small species—*Sminthopsis murina*, *Tadarida planiceps*, and *Nycticeius balstoni*—are in the same category, extending into the Mallee and the W. Victorian woodlands.

A third category comprises *Cercartetus concinnus*, *Gyomys apodemoides*, and *Notomys mitchellii*, all of which are today plentiful in central Mallee areas. In Victoria none of these occurs outside the Mallee.

The fourth category comprises 17 mammals that are widespread in Victoria and which extend more or less into Mallee areas:

Acrobates pygmaeus, *Petaurus breviceps*, and *Wallabia rufogrisea* are each recorded only from the southernmost Mallee unit. They are known from areas marginal to the Little Desert.

The two aquatic species, *Ornithorhynchus anatinus* and *Hydromys chrysogaster*, are apparently confined in the Mallee to waters associated with the Murray and Wimmera Rivers.

Antechinus flavipes and *Trichosurus vulpecula* are marginal, in woodlands or along streams where large trees provide suitable homes.

Sminthopsis crassicaudata, widespread in woodlands from NE. to SW. Victoria, penetrates the Mallee in much of the mallee-eucalypt formation.

Available records of the four small bats, *Chalinolobus gouldii*, *Eptesicus pumilus*, *Nyctophilus geoffroyi*, and *N. timoriensis*, indicate that each occurs deep in the Mallee, but data about the larger *Tadarida australis* suggest that it may be marginal, in areas carrying larger trees.

The dingo survives in remote places, and *Macropus major* is widespread and abundant in the Mallee.

The apparent absence of *Pseudocheirus peregrinus* from woodlands marginal to the Mallee suggests that Krefft's 1857 record and the specimens in the Fromm's Landing excavation (Wakefield 1964) may have represented a lower Murray R. population of the species discrete from that of S., C., and E. Victoria.

Krefft was definite that, when he was at 'Mondellimin', *Tachyglossus aculeatus* was unknown in the lower Murray R. district. Now it is widespread in the Mallee including, according to local naturalists, the Mildura area. These data indicate that the echidna has spread into the northern Mallee during the past 100 years.

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